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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,963	11/01/2004	Egbert Schoela	260188US0PCT	8034

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EXAMINER
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JOY, DAVID J

ART UNIT	PAPER NUMBER
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1774

DATE MAILED: 10/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/510,963

Applicant(s)

SCHOELA ET AL.

Examiner

David J. Joy

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/01/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
2. This application is a 371 of PCT/EP03/06939 filed 30 June 2003, which claims benefit of DE 102 38 992.6 filed 20 August 2002. The specification should include a statement that addresses this claim for priority. As it fails to do so, appropriate correction is required.

### *Information Disclosure Statement*

3. The Information Disclosure Statement that was filed on 01 November 2004 includes a reference to EP 0 078 640. After having reviewed the reference, examiner believes that a typographical error has been made as the reference is to a wholly unrelated invention. Therefore, the Information Disclosure Statement should be corrected.

*Specification*

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

5. The abstract of the disclosure is objected to because it violates the standard mentioned above in two ways. First, the abstract in the instant application is too long.

Second, the use of such terminology "said" should not appear in the abstract of the invention. Correction is required. See MPEP § 608.01(b).

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

*Claim Rejections - 35 USC § 112*

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1, 2, 8-11, 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

9. Regarding claim 9, the phrase "where appropriate in a mixture with aluminum hydroxide" renders the claim indefinite because it is unclear whether the limitations in that phrase are part of the claimed invention. See MPEP § 2173.05(d).

10. Regarding claim 10, the phrase "preferably by the cell casting process or a modified form thereof" renders the claim indefinite because it is unclear whether the limitations within that phrase are part of the claimed invention. See MPEP § 2173.05(d). In addition, the phrase in (D), "where appropriate, means of adjusting the viscosity of the system" also renders the claim indefinite because it is unclear whether the limitations in that phrase are part of the claimed invention. Still further, in (E), the phrase "conventional additives" renders the claim indefinite because it is unclear to what additives that claim is referring, therefore it is unclear how the limitations apply to the claimed invention.

11. Regarding claim 11, the phrase "which, where appropriate, have a coating of plastic" renders the claim indefinite because it is unclear whether the limitations in that phrase are part of the claimed invention. Further, the phrase "preferably of plastic composed of polyamide" also renders the claim indefinite because it is unclear whether the limitations in that phrase are part of the claimed invention. See MPEP § 2173.05(d).

12. Regarding claim 13, the phrase "Process according to Claim 13" renders the claim indefinite because it appears that Claim 13 is a dependent claim that depends upon itself.

13. Regarding claim 14, the claim is dependent upon Claim 13, which, as stated above, is rejected as being indefinite. Since Claim 14 depends upon a previously rejected claim, it inherits the impropriety of Claim 13 and is therefore rejected as being indefinite

14. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd.

App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949).

15. Claim 1 makes the broad recitation “a thickness of more than 8 mm”, and the claim also recites “preferably more than 12 mm” which is the narrower statement of the range/limitation.

16. Claim 2 makes the broad recitation “in the range from more than 8 mm to 40 mm”, and the claim also recites “preferably in the range from greater than 10 to 35 mm” which is the narrower statement of the range/limitation.

17. In Claim 8, there is the broad recitation of “the average particle size of the filler used in the range from 0.01 to 80  $\mu\text{m}$ ”, which is followed by the recitation of the narrowed range of “in particular in the range from 0.05 to 30  $\mu\text{m}$ ”, and the claim further recites “very particularly advantageously in the range from 0.1 to 20  $\mu\text{m}$ ” which is an even narrower statement of the range/limitation.

18. Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim



is an omnibus type claim. Other than the reference to the preceding limitations found in Claim 1, Claim 15 merely recites that which is an intended use for the invention. Since patentable weight is not given to statements of intended use, the claim fails to assert any new limitations that relate to the invention that have not already been previously stated.

*Claim Rejections - 35 USC § 102*

19. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

20. Claims 1 – 6 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by the U.S. Patent of Oleiko, et al. (US 6,305,492), drawn to a noise-protection wall-segment (hereinafter referred to as “Oleiko”).

21. With regard to Claim 1, Oleiko teaches an acrylic sheet (see Abstract; see also Column 6, Line 59). The dimension of the sheet is 2 x 2 m or greater (see Column 8, Lines 12 – 13; see also Column 10, Lines 60 – 62; see also Column 15, Lines 63 – 67) and the thickness is more than 8 mm (see Column 5, Line 58). The sheet contains threads, tapes, grids or nets made from a material incompatible with the acrylic sheet (see Column 6, Lines 59-62). The sheet also comprises a filler that is present in the amount of 40 to 80 percent by weight (see Column 6, Lines 23 – 29; see also Column 10, Lines 38-43).

22. As for Claims 2 and 3, Oleiko states that acrylic sheet in the range from more than 8 mm to 40 mm. The sheet is “approximately 20 mm thick” which clearly meets the range as claimed (as well as any of the other further limiting ranges, as discussed above) (see Column 5, Lines 58 – 59; see also Column 10, Lines 60 – 62; see also Column 15, Lines 63 – 67).

23. In terms of Claims 4, 5 and 6, Oleiko addresses the nature and quantity of the fillers. Oleiko teaches that the proportion of the fillers is in the range from 50 to 60 percent by weight (see Column 10, Lines 38 – 43). Oleiko further addresses that the

sheet has substantial homogeneity of the fillers in the sheet (see Column 6, Line 35).

Oleiko also states that the filler is from a group consisting of talc, dolomite, naturally occurring talc-and-dolomite intergrowths, mica, quartz, chlorite, aluminum oxide, aluminum hydroxide, clays, silicon dioxide, silicates, carbonates, phosphates, sulphates, sulphides, metal oxides, powdered glass, glass beads, ceramic, kaolin, porcelain, cristobalite, feldspar, chalk and mixtures thereof (see Column 6, Lines 23 – 29; see also Column 10, Lines 30 – 37).

24. As for Claim 15, Oleiko teaches all of the claimed features and limitations of the acrylic sheet, as discussed above in Claim 1. The phrase “wherein the acrylic sheet is utilized as a noise barrier” merely recites an intended use of the acrylic sheet. As patentable weight is not granted to statements of intended use, applicant’s present claim does not structurally or materially define anything over that which is taught by Oleiko.

### ***Claim Rejections - 35 USC § 103***

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 1774

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

26. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

27. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S.

Patent of Oleiko, et al. (US 6,305,492) in view of the U.S. Patent of Gaku, et al. (US

4,904,760). Oleiko teaches all of the claimed features and limitations of the acrylic sheet

that appear in Claim 1 (as discussed above). However, Oleiko is (technically) silent as

to whether the filler particles used are lamellar fillers.

28. Gaku, drawn to a thermosetting resin composition (which like the instant

invention utilizes fillers to achieve increased resistant characteristics in the final

product), teaches "examples of suitable reinforcing agents of fillers include ... lamellar

filler, such as glass, molten glass, silica, fused silica, synthetic silica, silicon carbide,

Art Unit: 1774

alumina, aluminum nitride, silica alumina, boron nitride, titanium oxide, wollastonite, mica, synthetic mica, gypsum, calcium carbonate, magnesium carbonate and magnesium oxide (see Column 9, Line 57 – Column 10, Line 14). Given the fact that Oleiko teaches using several of the same filler compounds mentioned in Gaku (which Gaku clarifies that they qualify as lamellar fillers), it would have been obvious to a person having ordinary skill in the art to use fillers, at the time of invention, that are lamellar in nature.

29. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the European Patent of Imperial Chemical Industries PLC (EP 0 516 299) (hereinafter "Imperial"). Oleiko teaches all of the claimed features and limitations of the acrylic sheet that appear in Claim 1 (as discussed above). However, Oleiko is silent as to whether the average particle size of the filler used is in the range from 0.01 to 80  $\mu\text{m}$ . In addition, Oleiko teaches all of the claimed features and limitations of polymerizable system, except for the fact that Oleiko fails to address both the presence of a binder in the polymerizable system, as well as the viscosity of the polymerizable system (see Column 10, Lines 1 – 43).

30. In terms of Claim 8, Imperial, drawn to highly filled, polymerizable compositions, teaches examples of suitable fillers that not only meet the group of claimed fillers, but also overlaps with the group as discussed in Oleiko (see Page 3, Lines 30 – 38). Imperial also teaches that the preferred fillers have an average particle size in the range from 0.01 to 80  $\mu\text{m}$ . Specifically, Imperial teaches that the preferred fillers have a mean diameter between 35 and 65  $\mu\text{m}$ , which clearly meets the range as claimed in the instant application (see Page 3, Lines 51 – 52). Therefore, it would have been obvious to a person having ordinary skill in the art at the time of invention to utilize fillers where the average particle size is in the range as claimed.

31. As for Claim 10, Imperial teaches the usefulness of including a binder in the polymerizable system (see Page 4, Lines 35 – 39). Specifically, Imperial states that in certain applications some bonding between the polymer matrix and the particles is achieved by the inclusion of a bonding agent (i.e., a binder). Therefore, it would have been obvious to a person having ordinary skill in the art to have included a binder in the polymerizable system at the time of invention. Additionally, Imperial teaches the viscosity of the (meth)acrylate system prior to the polymerization is greater than 0.1  $\text{Pa}\cdot\text{s}$  (where it is well-known that 0.1  $\text{Pa}\cdot\text{s}$  = 1 P = 100 cP). Specifically, Imperial that in preferred compositions the viscosity measured desirably between 15 and 70 P, but at

least 5 P. Therefore, it would also have been obvious to a person having ordinary skill in the art to process the polymerizable system in such a way that the viscosity of the system is greater than 0.1 Pa•s.

32. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the U.S. Patent Publication of Schoela, et al. (US 2003/0017289). Oleiko teaches all of the claimed features and limitations of the acrylic sheet that appear in Claim 1 (as discussed above). However, Oleiko is silent as to whether the filler is a talc-and-dolomite intergrowth.

33. Schoela, drawn to a self-reinforcing thermoplastically-deformable semi-finished product, teaches fillers which may be used advantageously during production include “naturally occurring adhesions of talc and dolomite.” Having looked up the term “adhesion” as it relates to minerals, it appeared that an *adhesion* is synonymous with an *intergrowth*, so an adhesion of talc and dolomite is the very same entity as a talc-and-dolomite intergrowth (see Alexandria Online Dictionaries – definition of “adhesion”). Therefore, it would have been obvious to a person having ordinary skill in the art to have used a talc-and-dolomite intergrowth as a filler at the time of invention.

34. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the International Publication of Clercq (WO 01/43952). Oleiko teaches all of the claimed features and limitations of the acrylic sheet that appear in Claim 1 (as discussed above). However, Oleiko is silent as to the inclusion of steel threads that have been embedded into the plastics matrix. Likewise, Oleiko fails to address that these metal strands can also be coated in plastic.

35. Clercq, drawn to a reinforcing structure for stiff composite articles, teaches that metallic elements can be used to reinforce stiff composite articles and to improve the impact properties of the composite article (see Abstract). In addition, Clercq teaches that any metal can be used to provide the metallic elements, but that preferably alloys such as high carbon steel alloys or stainless steel alloys are used (see Page 11, Lines 21 – 22)). Further, Clercq provides that the metallic elements can possess a polymer coating around the metallic elements, as such a polymer coating helps to improve the adhesion between the metallic elements and the polymer matrix (see Page 9, Lines 22 – 26). Consequently, it would have been obvious to a person having ordinary skill in the art to have used either steel threads or coated steel threads to reinforce the composite material.



36. Claims 12 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over the U.S. Patent of Oleiko, et al. (US 6,305,492) in view of the U.S. Patent of Cameron (US 3,780,156). Oleiko teaches all of the claimed features and limitations of the acrylic sheet that appear in Claim 1 (as discussed above). In addition, Oleiko teaches the steps (a) through (d) of the process for producing the acrylic sheet (see Column 15, Lines 51 – 67; see also Column 16, Lines 5 – 19). However, Oleiko is silent as to the viscosity of the polymerizable condition, be it a quantitative measure thereof, or a qualitative approach to regulate it.

37. Cameron, drawn to a process for making filled methyl methacrylate articles, teaches a process for a methacrylate mixture having a viscosity of 0.5 to 50 P (see Column 4, Lines 27 – 38). Further, Cameron discusses several different approaches to reducing the viscosity of a methacrylate mixture (see Column 2, Lines 13 – 17; see also Column 2, Lines 42 – 46; see also Column 5, Lines 21 – 35). Among the approaches taught, Cameron addresses varying the weight percent of the resin that is being used. Another approach that is taught is viscosity reduction using a modifier. Still another approach has to do with the use of temperature as a viscosity adjuster that has an effect on the methacrylate material. Finally, Cameron teaches why it is essential to control the viscosity of the mixture. Based on the teachings provided therein, it would have been

obvious to a person having ordinary skill in the art to have measured and regulated the viscosity of the material at the time of invention.

*Conclusion*

38. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 2003/0008126	01/2003	Boesman et al.
US 5,372,866	12/1994	Oberländer et al.
US 5,040,352	08/1991	Oberländer et al.
US 5,916,676	06/1999	Stasi

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Joy whose telephone number is (571) 272-9056. The examiner can normally be reached on Monday - Friday, 9:00 AM - 5:00 PM EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena L. Dye can be reached on (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1774

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "Bruce Hess". The signature is fluid and cursive, with the first name "Bruce" and the last name "Hess" clearly distinguishable.

DJJ  
10/06/2006

**B. HAMILTON HESS  
PRIMARY EXAMINER**